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REMARKS/ARGUMENTS

Claims 18-20 and 36-44 are pending and stand substantively rejected. Claims 1-17 and 21-35 are canceled, and claims 43 and 44 are withdrawn. Reconsideration is respectfully requested.

Consideration as "Special" Application, and Request for Termination of Prosecution

According to MPEP 707.02, for applications up for third year Action and 5-year applications should receive special treatment. The supervisory patent examiners should impress their assistants with the fact that the shortest path to the final disposition of an application is by finding the best references on the first search and carefully applying them. The supervisory patent examiners are expected to personally check on the pendency of every application which is up for the third or subsequent Office action with a view to finally concluding its prosecution.

Any application that has been pending five years should be carefully studied by the supervisory patent examiner and every effort should be made to terminate its prosecution. In order to accomplish this result, the application is to be considered "special" by the examiner.

The instant application was filed *December 6, 2001*. It should be considered "special" and Applicants request termination of prosecution at the earliest possible date.

Finality of the Next Action Is Precluded

If the next Office Action rejects any one of claims 19, 20, or 36-44, then it must provide a new rejection of that rejected claim, because as explained below, the rejection of record does not establish a *prima facie* case.

Any new rejection of claims 19, 20, or 36-44, however, would not have been necessitated by a claim amendment, as none of these claims are presently amended.

Moreover, any new rejection would not have been based on information submitted in an information disclosure statement filed during the period set forth in 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) because no such information disclosure statements have been filed.

Therefore, as required by MPEP § 706.07(a), the next Office Action <u>must be non-final</u> if it rejects any one of claims 19, 20, or 36-44 because such a rejection will not have been

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necessitated by either a claim amendment or based on information from an information disclosure statement.

I. First Ambiguous Rejection

At the first paragraph of page 2, the Office Action says "the combination applied in the Examiner's Answer" teaches the claimed method.

As an initial matter, it is not clear why the Examiner would re-open prosecution following Appeal, and then reiterate the same rejection that originally led to the Appeal.

Regardless, this paragraph of the Office Action does not specify what claims are being analyzed in view of the applied combination. Further, the statutory basis for this rejection is not identified.

The Examiner's Answer of February 9, 2007 and the Examiner's Answer of July 10, 2007 both cite the following references:

US 6,563,105 to Seibel;

US 6,280,435 to Odrich; and

US 6,486,943 to Burns.

However, as noted below, <u>neither Seibel nor Odrich</u> qualify as prior art under 35 U.S.C. §102 or §103. Withdrawal of this rejection is requested.

II. Second Ambiguous Rejection

At the second paragraph of page 3, the Office Action addresses claim 36 and mentions the Burns and Seibel references. However, the *statutory basis* for this rejection is not identified. Moreover, as previously stated and reiterated below, Seibel is not prior art.

USPN 6,563,105 to Seibel et al. was filed 8/23/01, and published on 10/3/02. The patent issued 5/13/03. Seibel was not published before the instant application was filed, and thus cannot qualify as a §102(a) reference. Seibel was not published more than one year before the instant application was filed, and thus cannot qualify as a §102(b) reference. Seibel was filed before the instant application was filed but not before the instant priority provisional was filed. Support for the present pending claims can be found in the instant priority provisional application at, for example, page 11, line 11 to page 13, line 4, Figs. 5-6A, and the originally filed claims, including claims 1, 9, and 10. Thus, Seibel cannot qualify as a §102(e) reference.

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Seibel therefore cannot be relied upon for a rejection of claim 36. Withdrawal of this rejection is requested.

III. Rejection Under 35 U.S.C. §101

Claims 18-20 and 36-42 were rejected under 35 U.S.C. §101 as allegedly drawn to non-statutory subject matter. This rejection is traversed.

The Advisory Action mailed October 25, 2006 stated that the §101 rejection is not applicable to at least claim 39. However, the instant Office Action offers no explanation as to why the Advisory Action has been reversed with respect to claim 39. If this rejection as applied to claim 39 is maintained, clarification is requested.

Moreover, the Examiner's Answer mailed February 9, 2007 (page 4) stated that the §101 rejection was not based on the "mental steps" test for non-statutory subject matter. However, the instant Office Action offers no explanation as to why the Examiner's Answer has been reversed with respect to the "mental steps" rejection. If this rejection is maintained, clarification is requested.

In the interest of compact prosecution, the traverse of the "mental steps" rejection, as previously set forth in response to the Office Action of June 15, 2006 (page 3), is reiterated below.

A. The "Mental Step" Test Is Improper

The law regarding non-statutory subject matter is discussed in In re Musgrave, and further guidance can be found in The Interim Guidelines For Examination Of Patent Applications For Patent Subject Matter Eligibility.

In re Musgrave (167 USPO 280, Fed. Cir. 1970)

This case recites the rule that it is improper to reject a claim as directed to a non-statutory process merely because some or all the steps therein can also be carried out in or with the aid of the human mind. At issue was whether the claims directed to establishing weathering corrections in seismic exploration were properly rejected as non-statutory on the basis that they involved mental steps. The Court found that it was improper to reject the claims merely because some or all of the method steps involved processes of the human mind.

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Interim Guidelines, Subject Matter Eligibility (OG Not. 11/22/05)

The Interim Guidelines caution that "USPTO personnel should no longer rely on the mental step test to determine whether a claimed invention is directed to statutory subject matter." (Emphasis added).

The foregoing court decision and Interim Guidelines clearly establish that it is improper to rely upon a "mental steps" test to support a non-statutory subject matter rejection under 35 U.S.C. §101.

B. The Bilski test

The Office Action alleges that the presently claimed invention does not result in a physical transformation, and thus is non-statutory subject matter under *Bilski*. This conclusion ignores important aspects of the *Bilski* decision.

The *Bilski* Court explained that the machine-or-transformation test is a two-branched inquiry: an applicant may show that a process claim satisfies § 101 either by showing that (1) the claim involves a machine, or (2) the claim involves transformation an article into a different state or thing.

Regarding the transformation rule, the *Bilski* Court made clear that a process for a chemical or physical transformation of physical objects or substances is patent-eligible subject matter. In contrast, the *Bilski* Court also held that transformations or manipulations simply of public or private legal obligations or relationships, business risks, or other such abstractions cannot meet the test because they are not physical objects or substances, and they are not representative of physical objects or substances.

Presently pending claim 18 therefore provides statutory subject matter under Bilski, because it involves transmitting an image through optical tissue, thus resulting in a physical transformation of a physical substance. Such transformation goes well beyond the mere manipulation of a legal obligation or other abstraction.

More specifically, the step of "transmitting an image through the optical tissue" as recited in claim 18 provides a transformation of an article or physical object to a different state or thing, because the claimed "transmitted image" has been transformed to a different state. The

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transformative effect of an optical system, for example optical tissue, is described in U.S. Patent No. 6,486,943 to Burns et al. (which is part of an asserted §103 rejection, and not new evidence):

"A typical optical system operates on an incident optical wavefront to *transform* it to a *different* optical wavefront. Generally, different points on the wavefront experience different *transformations* depending on what portions of the optical system they encounter. [...] The wavefront encountering the lens results in a *transmitted wavefront* having a *different* shape." (See Burns at col. 1, lines 19-30; emphasis added).

Based on this transformative effect, Appellants submit that the claimed step of transmitting an image through the optical tissue provides a transformation of an article or physical object to a different state or thing (e.g. the claimed transmitted image), and therefore meets the "transformation test" described by the *Bilski* Court.

Moreover, the claimed "accuracy of the gradient array" is more than a calculation, because it is a useful, concrete, and tangible result. It is possible to use the accuracy to determine, for instance, whether to formulate a vision treatment based on the gradient array, as indicated in the instant specification at, for example, page 18, lines 14-15.

Certainly, presently pending claim 39, which includes <u>modifying an optical tissue</u> <u>surface by laser ablation</u>, can be easily understood to involve a machine and a physical transformation, and therefore satisfies both prongs of the *Bilski* test.

Withdrawal of this rejection is respectfully requested.

IV. Rejection under 35 U.S.C. §103

Claims 18-20 and 36-42 were rejected under 35 U.S.C. § 103(a) as allegedly obvious over U.S. Patent No. 6,834,238 ["Hochman"] in combination with U.S. Patent No. 6,280,435. ["Odrich"] and U.S. Patent No. 6,486,943 ["Burns"]. This rejection is traversed.

The instant application was filed 12/6/01, and claims priority to provisional application no. 60/254,313 filed 12/8/00. At the time the presently claimed invention was made, it was owned or subject to an obligation of assignment to VISX Incorporated.

The Odrich application was filed 3/3/99, and issued 8/28/01. The Odrich application claims priority to provisional application no. 60/076,786 filed 3/4/98. Odrich was

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published before the instant application was filed, but not before the instant provisional application was filed, and thus cannot qualify as a §102(a) reference. Odrich was not published more than one year before the instant application was filed, and thus cannot qualify as a §102(b) reference. Odrich was filed before the instant application was filed and the Odrich provisional was filed before the instant provisional, and thus Odrich can only qualify as a §102(e) reference. Odrich was, at the time the presently claimed invention was made, owned by or subject to an obligation of assignment to VISX Incorporated. Thus, Odrich, which could only qualify under 102(e), shall not preclude patentability because of the common ownership provisions of 35 U.S.C. §103(c). In sum, according to MPEP 706.02(I)(1)(I), Odrich cannot properly be included in the proposed §103(a) rejection.

Moreover, this §103 rejection incorrectly addresses only claim 18. A proper rejection must individually address each of the pending claims, on the merits. Withdrawal of this rejection is respectfully requested.

V. Rejection under 35 U.S.C. §103

Claims 18-20 and 36-42 were rejected under 35 U.S.C. § 103(a) as allegedly obvious over Hochman in combination with U.S. Patent No. 5,782,822 ["Telfair"] and Burns. This rejection is traversed.

Independent Claim 18

A. Telfair's SRR Is Not Used To Evaluate Shape

The Office Action alleges that "Telfair et al teach mapping the surface contour of the comea using a spatially resolved refractometer." This is incorrect.

Telfair describes two different methodologies for assessing corneal tissue: topography and refractometry. At col. 5, lines 26-32 (reproduced below), Telfair explains the difference between these two approaches.

According to further features of the invention, a corneal topography device may be included in the surgical apparatus for evaluating the shape of the corneal tissue to assist in pre-op or post-operative measurements. Alternatively, a spatially resolved refractometer may be included for evaluating the refraction of the corneal tissue. In various embodiments

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In other words, Telfair describes the following:

Corneal tissue shape is evaluated with a corneal topography device; and Corneal tissue refraction is evaluated with a refractometer.

At col. 9, lines 1-6 (reproduced below), Telfair again explains this difference.

corneal topography device 180 may be used for evaluating the shape of the corneal tissue to assist in pre-op and post-op measurements of the eyes' shape or curvature. An alternate embodiment would include a spatially resolved refractome- 5 ter (SRR) 190 to evaluate the refraction of the corneal tissue.

At col. 15, lines 17-25 (reproduced below), Telfair reinforces the differences.

As previously indicated, a corneal topography device 180 may be used to assist in pre-op and post-op measurements of the eyes' shape or curvature. Any commercially available topographic instrument may be used for this purpose as long as it is modified to include reference targets for fixation as utilized by the present invention. An alternate embodiment would include in this location a Spatially Resolved Refractometer (SRR) 190 to measure true refraction across the cornea.

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Relatedly, at col. 15, lines 65-67 (reproduced below), Telfair explain the difference between "shape mapping" and "refraction mapping"

An alternative to the shape mapping of these topography 65 devices is the refraction mapping device and method called Spatially Resolved Refractometer (SRR). For a detailed

Put differently, Telfair describes:

shape mapping using a topography device; and refraction mapping with a spatially resolved refractometer.

Hence, in multiple instances throughout the reference, Telfair describes with clarity the differences between shape (topography) and refraction (SRR) techniques.

Importantly, and contrary to the Office Action allegation, <u>Telfair does not</u> describe shape mapping with an <u>SRR</u>. Accordingly, the basis for this §103 rejection is not supported by the plain language of the reference.

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B. Telfair Does Not Lack A Method To Produce Contour Data

C. Presently Pending Claim 18 Does Not Require Contour Data

The Office Action alleges that Telfair "discusses no method to produce the contour data required for the method". This is incorrect for two reasons.

First, Telfair *does* describes how shape data is produced: using a corneal topography device. At col. 15, lines 35-41, Telfair describes shape data production by manufacturers such as Eyesys, Computed Anatomoy, and Orbtek.

Second, presently pending claim 18 does not recite contour data. Rather, it is related to local gradients corresponding to an image *transmitted through* optical tissue.

Dependent Claim 19

Presently pending claim 19 involves calculating a change in elevation along the closed integration path across the portion of the array.

The Office Action does not address this claim element. The Office Action does not support the §103 rejection with any evidence or argument that the claimed elements are taught by Hochman, Telfair, or Burns. Applicants are not given the opportunity to address real issues of patentability, and are not given enough information to assist with the identification of any clear issues for appeal. The Office Action does not meet the initial burden of factually supporting a conclusion of obviousness. Applicants should not be left to surmise which features of the cited reference is alleged to read on the presently pending claims.

Because the Office Action does not specify which feature of Hochman, Telfair, or Burns (with reference to a figure, or column and line number) is alleged to read on the elements recited in claim 19, Applicants have been forced to guess at plausible grounds for the rejection. Upon extensive review of Hochman, Telfair, and Burns, Applicants respectfully submit that Hochman, Telfair, or Burns do not disclose the presently claimed combination of elements. If this rejection is maintained, clarification in a subsequent non-final Office Action is respectfully requested.

Dependent Claim 20

Presently pending claim 20 involves a closed integration path that includes a common starting point, a common ending point, a first integration path connecting the common

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starting point to the common ending point, and a second integration path connecting the common starting point to the common ending point, the first and second integration paths being different.

The Office Action does not address this claim element. The Office Action does not support the §103 rejection with any evidence or argument that the claimed elements are taught by Hochman, Telfair, or Burns. Applicants are not given the opportunity to address real issues of patentability, and are not given enough information to assist with the identification of any clear issues for appeal. The Office Action does not meet the initial burden of factually supporting a conclusion of obviousness. Applicants should not be left to surmise which features of the cited reference is alleged to read on the presently pending claims.

Because the Office Action does not specify which feature of Hochman, Telfair, or Burns (with reference to a figure, or column and line number) is alleged to read on the elements recited in claim 20, Applicants have been forced to guess at plausible grounds for the rejection. Upon extensive review of Hochman, Telfair, and Burns, Applicants respectfully submit that Hochman, Telfair, or Burns do not disclose the presently claimed combination of elements. If this rejection is maintained, clarification in a subsequent non-final Office Action is respectfully requested.

Dependent Claim 36

Presently pending claim 36 involves transmitting a source image from a light source posteriorly through the optical tissues and onto the retina to define the image, wherein the image is transmitted posteriorly through a central region of the cornea, the central region having a size which is significantly less than a pupil size of the eye, and wherein the image is transmitted from the retina anteriorly through the optical tissues.

The Office Action does not address this claim element. The Office Action does not support the §103 rejection with any evidence or argument that the claimed elements are taught by Hochman, Telfair, or Burns. Applicants are not given the opportunity to address real issues of patentability, and are not given enough information to assist with the identification of any clear issues for appeal. The Office Action does not meet the initial burden of factually supporting a conclusion of obviousness. Applicants should not be left to surmise which features of the cited reference is alleged to read on the presently pending claims.

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Because the Office Action does not specify which feature of Hochman, Telfair, or Burns (with reference to a figure, or column and line number) is alleged to read on the elements recited in claim 36, Applicants have been forced to guess at plausible grounds for the rejection. Upon extensive review of Hochman, Telfair, and Burns, Applicants respectfully submit that Hochman, Telfair, or Burns do not disclose the presently claimed combination of elements. If this rejection is maintained, clarification in a subsequent non-final Office Action is respectfully requested.

Dependent Claim 37

Presently pending claim 37 involves an image that is transmitted by the optical tissues as a plurality of beamlets, wherein each gradient corresponds to an associated portion of an optical surface such that each beamlet is transmitted through the optical tissue according to the corresponding gradient.

The Office Action does not address this claim element. The Office Action does not support the §103 rejection with any evidence or argument that the claimed elements are taught by Hochman, Telfair, or Burns. Applicants are not given the opportunity to address real issues of patentability, and are not given enough information to assist with the identification of any clear issues for appeal. The Office Action does not meet the initial burden of factually supporting a conclusion of obviousness. Applicants should not be left to surmise which features of the cited reference is alleged to read on the presently pending claims.

Because the Office Action does not specify which feature of Hochman, Telfair, or Burns (with reference to a figure, or column and line number) is alleged to read on the elements recited in claim 37, Applicants have been forced to guess at plausible grounds for the rejection. Upon extensive review of Hochman, Telfair, and Burns, Applicants respectfully submit that Hochman, Telfair, or Burns do not disclose the presently claimed combination of elements. If this rejection is maintained, clarification in a subsequent non-final Office Action is respectfully requested.

Dependent Claim 38

Presently pending claim 38 involves an integration that is performed so as to map an error-correcting change in optical tissues.

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The Office Action does not address this claim element. The Office Action does not support the §103 rejection with any evidence or argument that the claimed elements are taught by Hochman, Telfair, or Burns. Applicants are not given the opportunity to address real issues of patentability, and are not given enough information to assist with the identification of any clear issues for appeal. The Office Action does not meet the initial burden of factually supporting a conclusion of obviousness. Applicants should not be left to surmise which features of the cited reference is alleged to read on the presently pending claims.

Because the Office Action does not specify which feature of Hochman, Telfair, or Burns (with reference to a figure, or column and line number) is alleged to read on the elements recited in claim 38, Applicants have been forced to guess at plausible grounds for the rejection. Upon extensive review of Hochman, Telfair, and Burns, Applicants respectfully submit that Hochman, Telfair, or Burns do not disclose the presently claimed combination of elements. If this rejection is maintained, clarification in a subsequent non-final Office Action is respectfully requested.

Dependent Claim 39

Presently pending claim 39 involves a mapping step that includes deriving a proposed change in the optical tissue surface elevations so as to effect a desired change in optical properties of the eye, and further includes modifying the optical tissue surface according to the proposed change by laser ablation.

The Office Action does not address this claim element. The Office Action does not support the §103 rejection with any evidence or argument that the claimed elements are taught by Hochman, Telfair, or Burns. Applicants are not given the opportunity to address real issues of patentability, and are not given enough information to assist with the identification of any clear issues for appeal. The Office Action does not meet the initial burden of factually supporting a conclusion of obviousness. Applicants should not be left to surmise which features of the cited reference is alleged to read on the presently pending claims.

Because the Office Action does not specify which feature of Hochman, Telfair, or Burns (with reference to a figure, or column and line number) is alleged to read on the elements recited in claim 39, Applicants have been forced to guess at plausible grounds for the rejection.

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Upon extensive review of Hochman, Telfair, and Burns, Applicants respectfully submit that Hochman, Telfair, or Burns do not disclose the presently claimed combination of elements. If this rejection is maintained, clarification in a subsequent non-final Office Action is respectfully requested.

Dependent Claim 40

Presently pending claim 40 involves a closed integration path that extends from a first center of a first portion of the optical surface to a second center of a second portion of the optical surface, from the second center to a third center of a third portion of the optical surface, and from the third center back to the first center, the first, second and third portions of the optical surface corresponding to the first, second and third gradients of the gradient array, respectively.

The Office Action does not address this claim element. The Office Action does not support the §103 rejection with any evidence or argument that the claimed elements are taught by Hochman, Telfair, or Burns. Applicants are not given the opportunity to address real issues of patentability, and are not given enough information to assist with the identification of any clear issues for appeal. The Office Action does not meet the initial burden of factually supporting a conclusion of obviousness. Applicants should not be left to surmise which features of the cited reference is alleged to read on the presently pending claims.

Because the Office Action does not specify which feature of Hochman, Telfair, or Burns (with reference to a figure, or column and line number) is alleged to read on the elements recited in claim 40, Applicants have been forced to guess at plausible grounds for the rejection. Upon extensive review of Hochman, Telfair, and Burns, Applicants respectfully submit that Hochman, Telfair, or Burns do not disclose the presently claimed combination of elements. If this rejection is maintained, clarification in a subsequent non-final Office Action is respectfully requested.

Dependent Claim 41

Presently pending claim 41 involves a closed integration path that extends from an initial location corresponding to a position between a first gradient array element and a second gradient array element, the path crossing a first portion of the optical surface corresponding to the second gradient array element, a second portion of the optical surface corresponding to a

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third gradient array element, and a third portion of the optical surface corresponding to a fourth gradient array element before returning back to the initial location.

The Office Action does not address this claim element. The Office Action does not support the §103 rejection with any evidence or argument that the claimed elements are taught by Hochman, Telfair, or Burns. Applicants are not given the opportunity to address real issues of patentability, and are not given enough information to assist with the identification of any clear issues for appeal. The Office Action does not meet the initial burden of factually supporting a conclusion of obviousness. Applicants should not be left to surmise which features of the cited reference is alleged to read on the presently pending claims.

Because the Office Action does not specify which feature of Hochman, Telfair, or Burns (with reference to a figure, or column and line number) is alleged to read on the elements recited in claim 41, Applicants have been forced to guess at plausible grounds for the rejection. Upon extensive review of Hochman, Telfair, and Burns, Applicants respectfully submit that Hochman, Telfair, or Burns do not disclose the presently claimed combination of elements. If this rejection is maintained, clarification in a subsequent non-final Office Action is respectfully requested.

Dependent Claim 42

Presently pending claim 42 involves an elevation map that is generated directly in the mapping step without deriving coefficients of a series expansion mathematically approximating the optical surface.

The Office Action does not address this claim element. The Office Action does not support the §103 rejection with any evidence or argument that the claimed elements are taught by Hochman, Telfair, or Burns. Applicants are not given the opportunity to address real issues of patentability, and are not given enough information to assist with the identification of any clear issues for appeal. The Office Action does not meet the initial burden of factually supporting a conclusion of obviousness. Applicants should not be left to surmise which features of the cited reference is alleged to read on the presently pending claims.

Because the Office Action does not specify which feature of Hochman, Telfair, or Burns (with reference to a figure, or column and line number) is alleged to read on the elements

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recited in claim 42, Applicants have been forced to guess at plausible grounds for the rejection. Upon extensive review of Hochman, Telfair, and Burns, Applicants respectfully submit that Hochman, Telfair, or Burns do not disclose the presently claimed combination of elements. If this rejection is maintained, clarification in a subsequent non-final Office Action is respectfully requested.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 303-571-4000.

Respectfully submitted,

/Nathan S. Cassell/

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